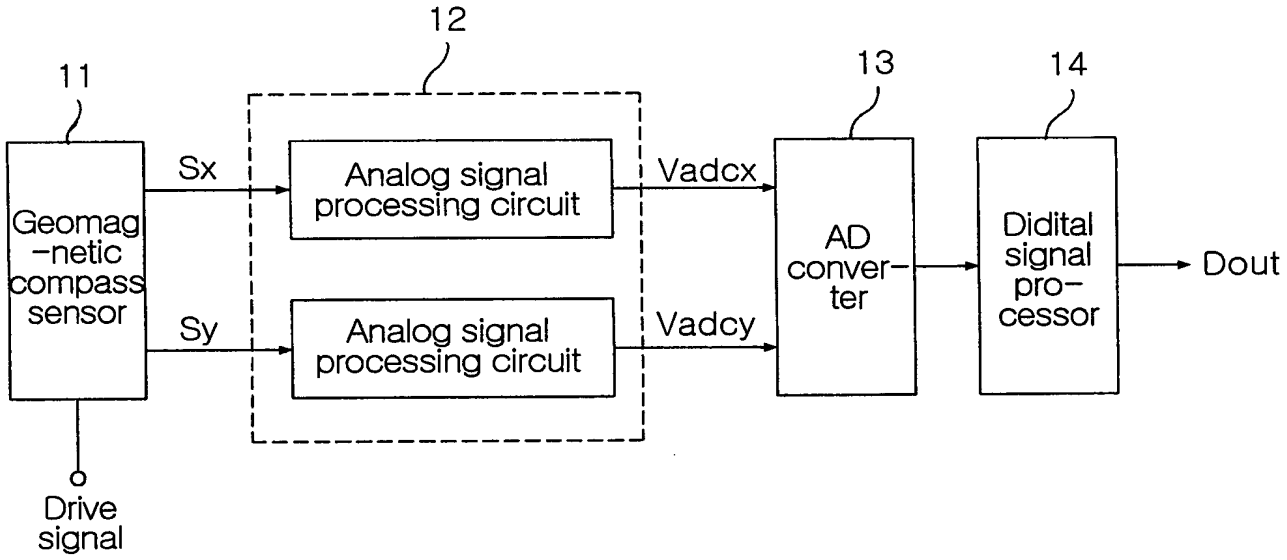
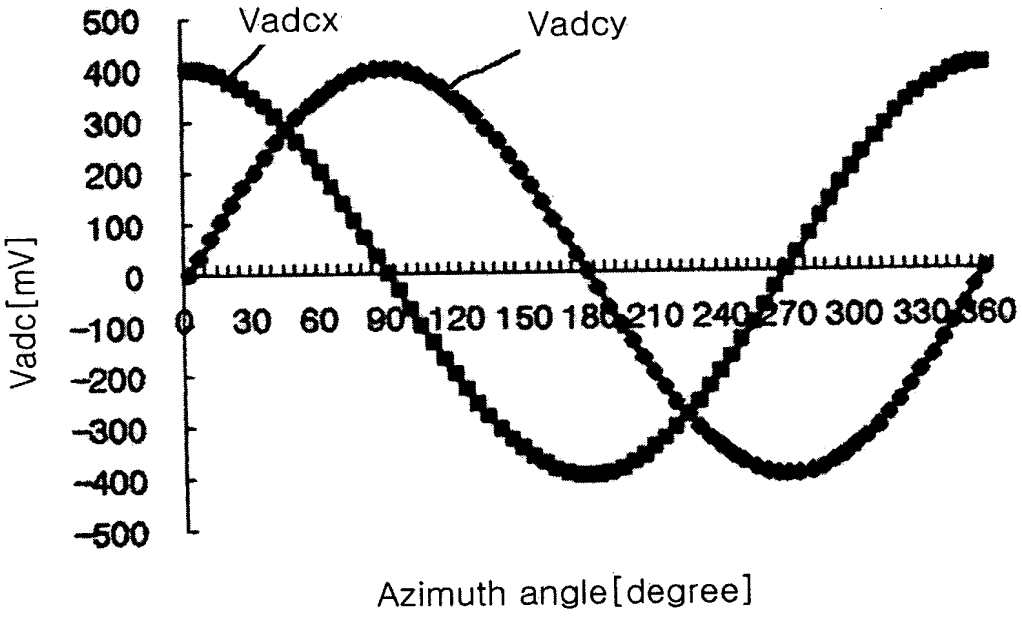


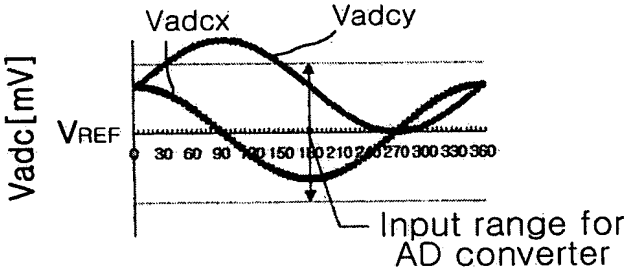
PRIOR ART

FIG. 1



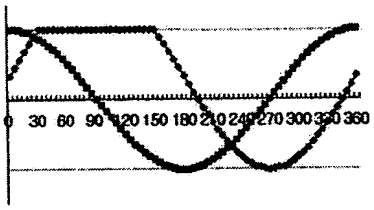
PRIOR ART

FIG. 2



PRIOR ART

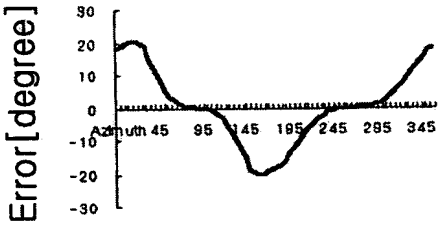
FIG. 3A



After offset calibration

PRIOR ART

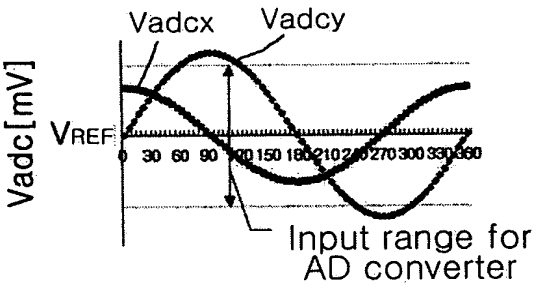
FIG. 3B



Azimuth-angle error occurrence

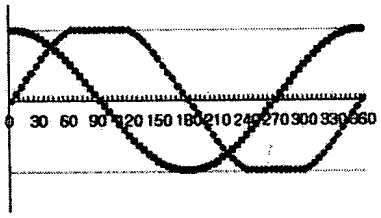
PRIOR ART

FIG. 3C



PRIOR ART

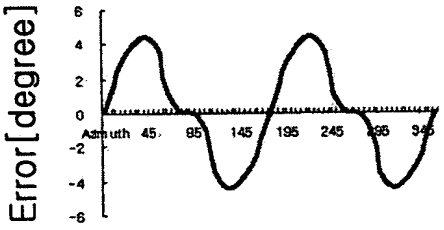
FIG. 4A



After offset calibration

PRIOR ART

FIG. 4B



Azimuth-angle
error occurrence

PRIOR ART

FIG. 4C

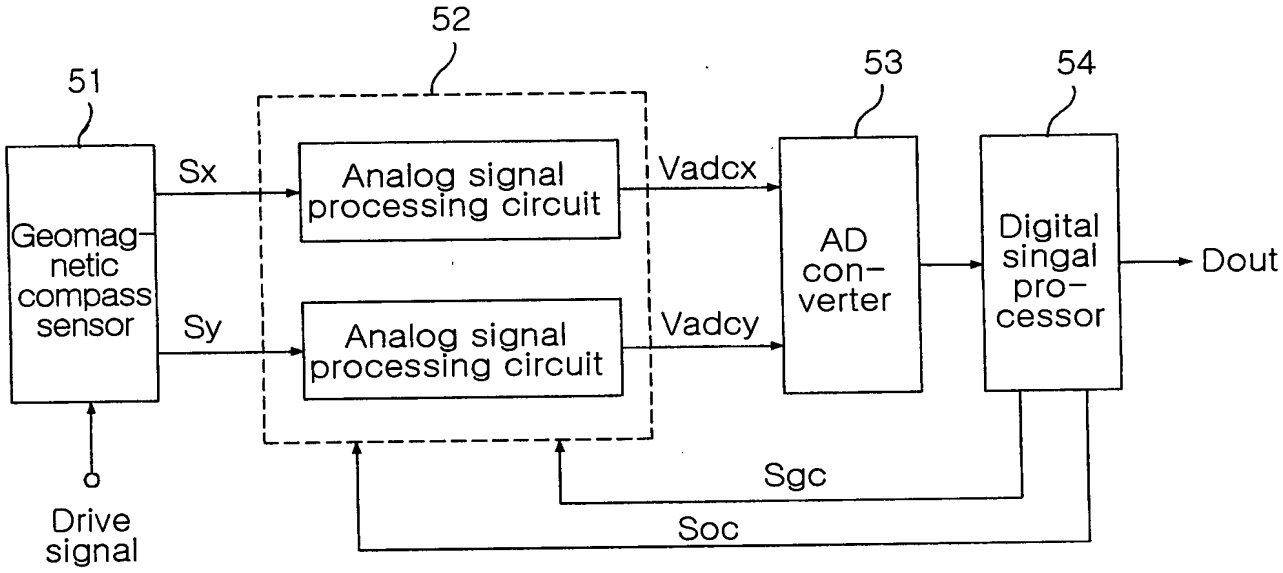

52
51
53
54
Sx
Analog signal processing circuit
Vadcx
AD con-verter
Digital singal pro-cessor
Dout
Geomag-netic compass sensor
Sy
Analog signal processing circuit
Vadcy
Sgc
Soc
Drive signal

FIG. 5

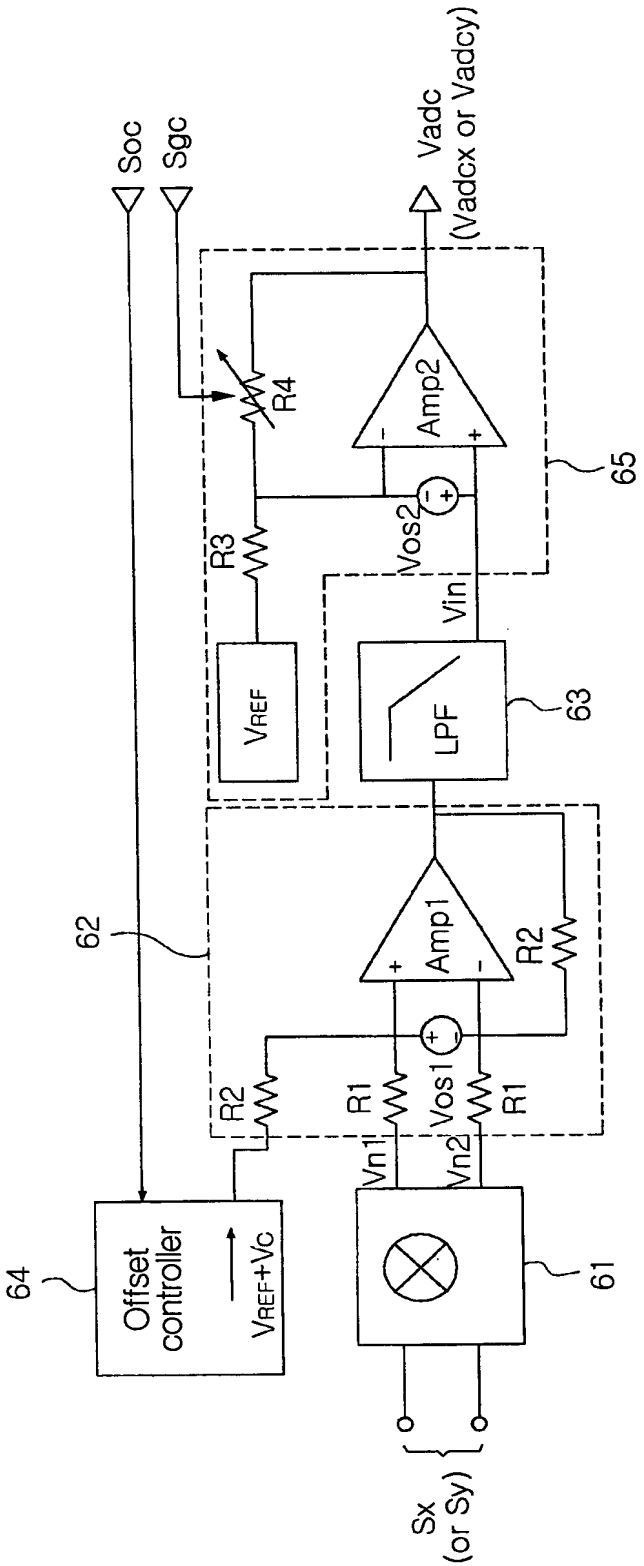

Soc
Sgc
Vadc
(Vadcx or Vadcy)
R4
Amp2
65
Vos2
R3
Vin
VREF
LPF
63
62
Amp1
R2
R2
R1
Vos1
R1
Vn1
Vn2
64
Offset controller
VREF+Vc
61
Sx
(or Sy)

FIG. 6

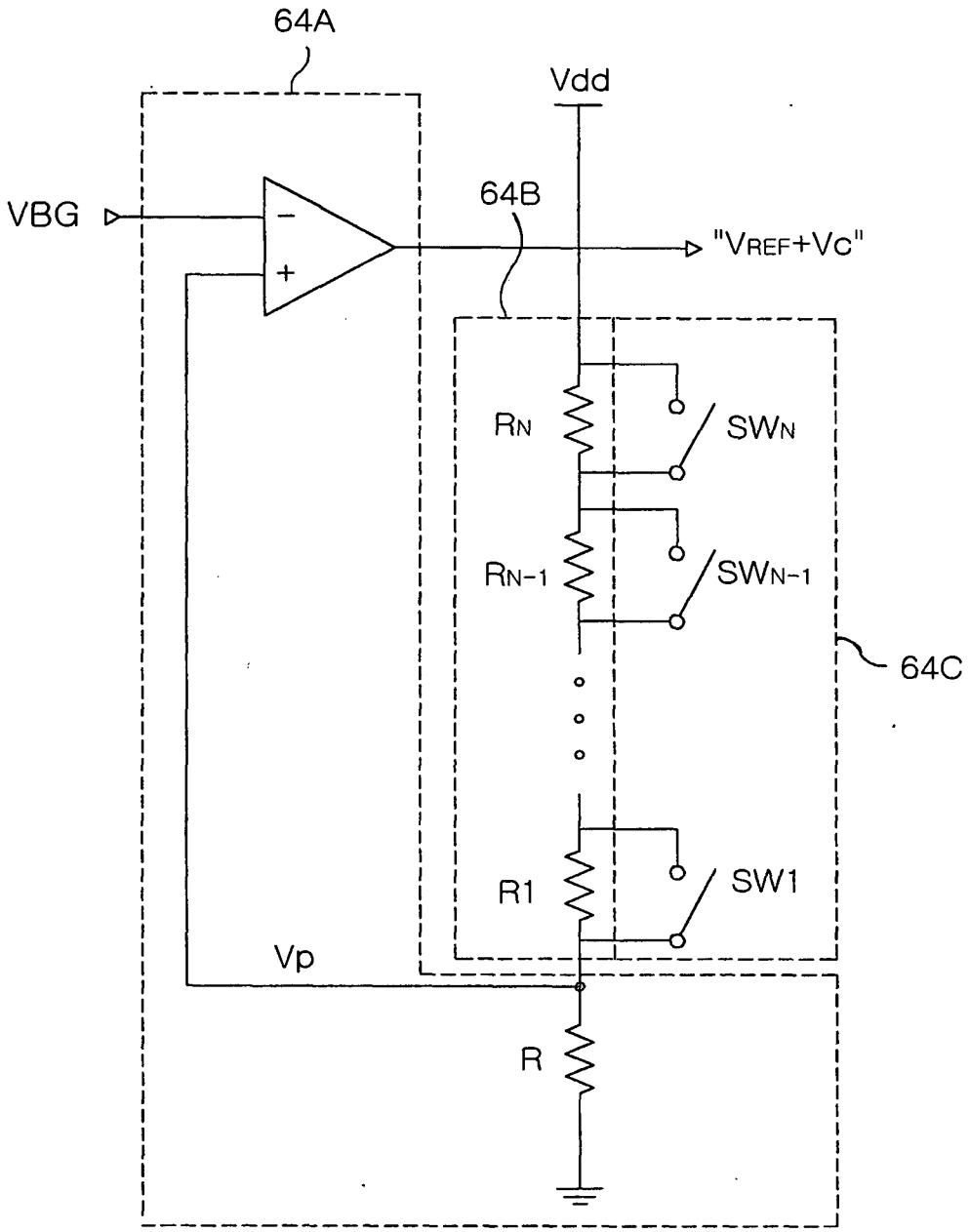


FIG. 7

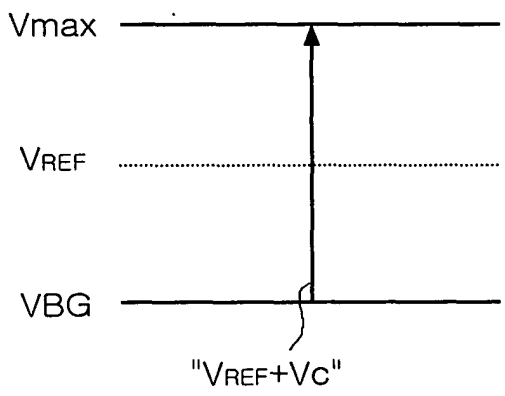


FIG. 8

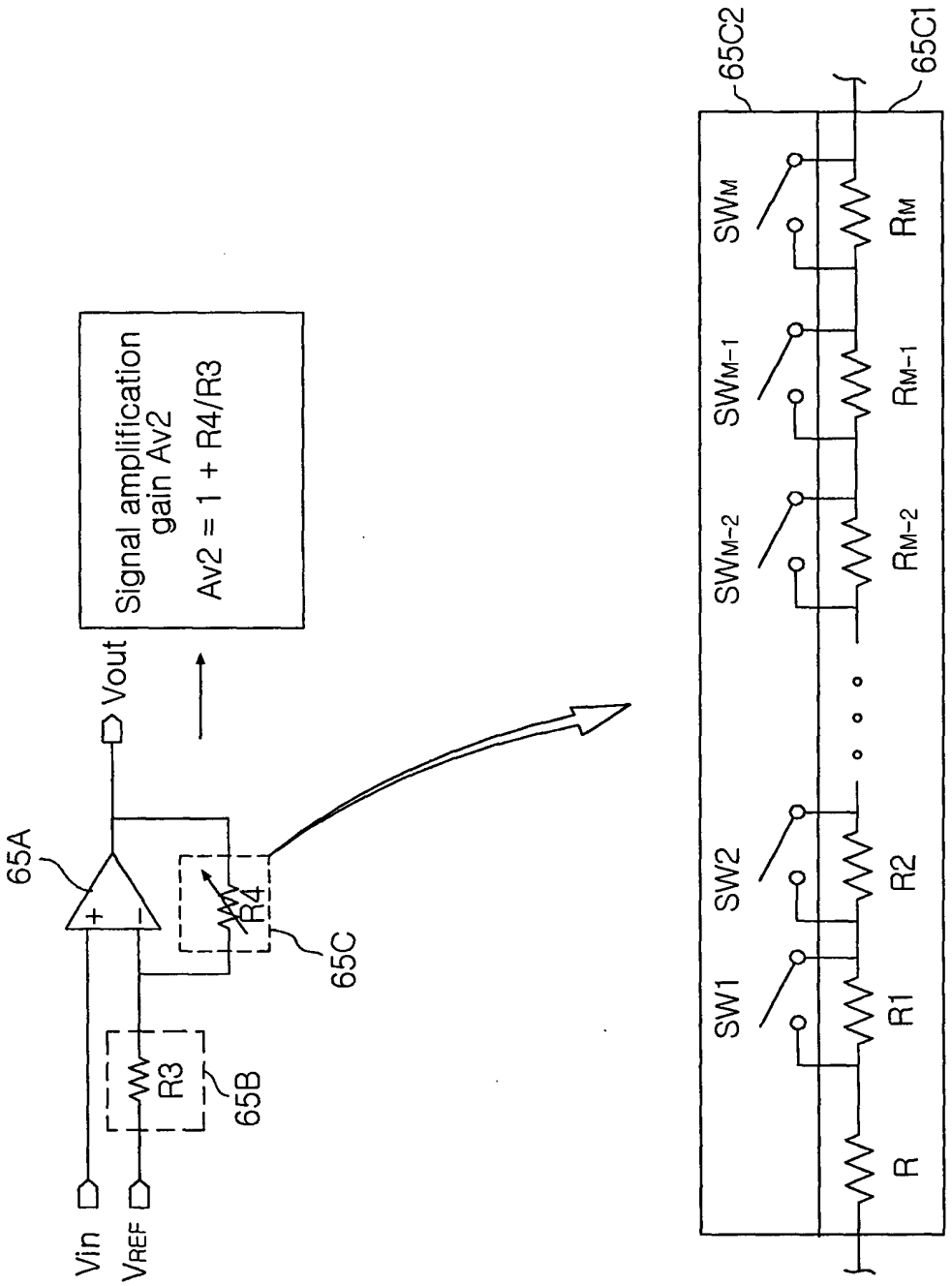
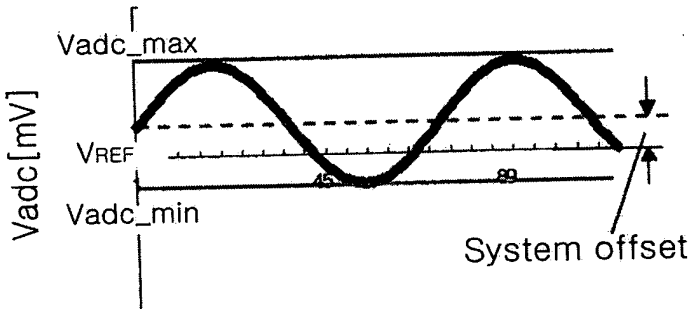
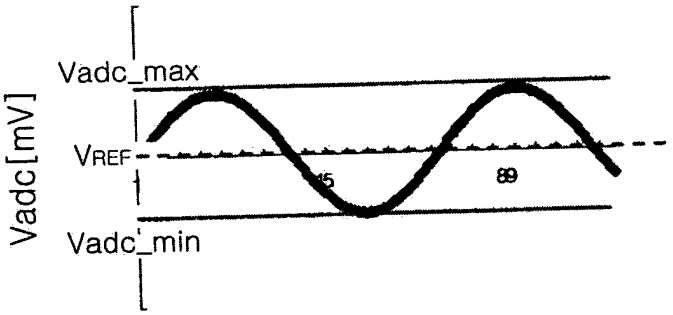

Signal amplification
gain Av2
Av2 = 1 + R4/R3
Vout
65A
+
-
R4
65C
R3
65B
Vin
VREF
65C2
65C1
SWM
RM
SWM-1
RM-1
SWM-2
RM-2
SW2
R2
SW1
R1
R

FIG. 9



Offset calculation

FIG. 10A



After offset compensation

FIG. 10B